2.3.4 Animal Species

This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5. All other special-status animal species are discussed here, including California Department of Fish and Wildlife (CDFW) fully protected species and species of special concern, and United States Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) candidate species.

2.3.4.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. USFWS, NOAA Fisheries Service, and CDFW are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5 of this chapter. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Section 4150 and 4152 of the California Fish and Game Code

2.3.4.2 Affected Environment

The following provides a summary of the potential species that may occur in the project area. This section has been prepared based on the analysis and findings presented in the following studies:

- *Natural Environment Study* (June 2016)
- *Natural Environment Study Errata* (June 2018)

The proposed project occurs within the boundaries of two habitat conservation plans, including:

- Central/Coastal NCCP/HCP – This plan was approved in 1996 and is intended to ensure the long-term survival of the coastal California gnatcatcher *(Polioptila californica californica)* and other special-status coastal sage scrub-dependent plant and wildlife species, while allowing for reasonable economic growth in accordance with state-sanctioned NCCP/HCP program guidelines.
- OCTA Measure M2 NCCP/HCP – The OCTA NCCP/HCP is designed to conserve a minimum target of approximately 550.4 acres of natural habitat, including specific targets for individual habitat types, as well as additional species-specific biological metrics. The targets represent an estimate of the amount of conservation needed to offset the direct and indirect effects from those covered M2 projects and activities. The goal of the OCTA NCCP/HCP is to make a contribution to regional habitat conservation achieved by existing protected public lands and HCPs (e.g., Central/Coastal NCCP/HCP) by increasing the size and habitat quality of core habitat areas and by protecting connectivity of core areas to other protected areas throughout the OCTA NCCP/HCP area.
- Under this plan, if USFWS determines that the proposed project is consistent with the approved OCTA NCCP/HCP, it would issue a "streamlined" Biological Opinion pursuant to Section 7 of the FESA. If CDFW determines that the proposed project is consistent with the approved NCCP, then they would provide a consistency determination memo/letter jointly prepared with USFWS (collectively referred to as the "Wildlife Agencies"). No other approvals would be required for potential impacts to covered State-listed species. The OCTA NCCP/HCP would provide mitigation to compensate for direct and indirect impacts on 13 covered species.

Fish

San Diego Creek is a perennial stream, which means that it flows year-round, with higher flows following storm events. Non-native fish species expected to occur in San Diego Creek include mosquito fish *(Gambusia affinis)* and carp *(Carprinus carpio)*.

Amphibians

The non-native American bullfrog *(Lithobates catesbeianus)* was observed at San Diego Creek – North. Native species expected to occur in riparian habitats include California treefrog *(Pseudacris cadaverina),* Baja California treefrog *(Pseudacris regilla),* and western toad *(Bufo boreas)*.

Reptiles

Reptile species observed or expected to occur throughout the BSA include western fence lizard *(Sceloporus occidentalis),* side-blotched lizard *(Uta stansburiana)*, and southern alligator lizard *(Elgaria multicarinata)*. In addition, non-native species, such as painted turtle *(Chrysemis picta),* red-eared slider *(Trachemys scripta),* spiny soft-shell turtles *(Trionyx spiniferus),* and spiny softshell *(Apalone spinifera),* were observed or are expected to occur along San Diego Creek – North.

Birds

Bird species observed in the urban areas of the BSA included red-tailed hawk *(Buteo jamaicensis),* rock pigeon *(Columba livia),* mourning dove *(Zenaida macroura),* Anna's hummingbird *(Calypte anna),* Allen's hummingbird *(Selasphorus sasin),* black phoebe *(Sayornis nigricans),* Say's phoebe *(Sayornis saya),* bushtit *(Psaltriparus minimus),* Bewick's wren *(Thryomanes bewickii),* American crow *(Corvus brachyrhynchos),* common raven *(Corvus corax),* common yellowthroat *(Geothlypis trichas),* California towhee *(Pipilo crissalis),* song sparrow *(Melospiza melodia),* northern mockingbird *(Mimus polyglottis),* European starling *(Sturnus vulgaris),* house finch *(Carpodacus mexicanus),* lesser goldfinch *(Carduelis psaltria),* American goldfinch *(Carduelis tristis),* and house sparrow *(Passer domesticus)*.

A variety of resident species were observed using the open water of San Diego Creek. These species included pied-billed grebe *(Podilymbus podiceps),* western grebe *(Aechmophorus occidentalis),* double-crested cormorant *(Phalacrocorax auritus),* great blue-heron *(Ardea herodias),* great egret *(Ardea albus),* snowy egret *(Egretta thula),* black-crowned night heron *(Nycticorax nycticorax),* mallard *(Anas platyrhynchos),* bufflehead *(Bucephala albeola),* ruddy duck *(Oxyura jamaicensus),* American coot *(Fulica americana),* Caspian tern *(Sterna caspia),* and Forster's tern *(Sterna forsteri).* Resident shorebird species were observed using the shoreline along the edge of San Diego Creek and included killdeer *(Charadrius vociferus)* and blacknecked stilt *(Himantopus mexicanus)*. Resident species observed using riparian or other terrestrial habitats included mourning dove, Anna's hummingbird, Nuttall's woodpecker *(Picoides nuttallii),* black phoebe, Hutton's vireo *(Vireo huttoni),* western scrub jay *(Aphelocoma californica),* bushtit, Bewick's wren, orange-crowned warbler *(Vermivora celata),* common yellowthroat, spotted towhee *(Pipilo maculatus),* California towhee, song sparrow, red-winged blackbird *(Agelaius phoeniceus),* house finch, lesser goldfinch, and American goldfinch.

Wintering species expected to occur include greenwinged teal *(Anas crecca),* blue-winged teal *(Anas discors),* northern shoveler *(Anas clypeata),* American wigeon *(Anas americana),* spotted sandpiper *(Actitis macularia),* western sandpiper *(Calidris mauri),* least sandpiper *(Calidris minutilla),* and yellowrumped warbler *(Dendroica coronata)*. Species that migrate into the

region to breed and were observed in the BSA include the cliff swallow *(Hirundo pyrrhonota),* ashthroated flycatcher *(Myiarchus cinerascens),* northern rough-winged swallow *(Stelgidopterx serripennis),* western tanager *(Piranga ludoviciana),* black-headed grosbeak *(Pheuticus melanocephalus),* blue grosbeak *(Guiraca caerulea),* hooded oriole *(Icterus cucullatus),* Bullock's oriole *(Icterus bullockii),* and brown-headed cowbird *(Molothrus ater).* During spring and fall migration, these areas provide foraging habitat for a variety of migratory species; species observed included the western wood-pewee *(Contopus sordidulus),* Pacific-slope flycatcher *(Empidonax difficilis),* Wilson's warbler *(Wilsonia pusilla),* and many other passerines.

Birds of prey (raptors) observed during the surveys included the turkey vulture *(Cathartes aura),* osprey *(Pandion haliaetus),* white-tailed kite *(Elanus leucurus),* Cooper's hawk *(Accipiter cooperii),* red-shouldered hawk *(Buteo lineatus),* red-tailed hawk, and American kestrel *(Falco sparverius).* All above-mentioned species, except for the turkey vulture, also have potential to nest in the BSA.

Mammals

Rodents and other small mammals are among the most diverse and widespread mammals in the BSA. The deer mouse *(Peromyscus maniculatus),* the most common rodent, likely inhabits virtually all habitats in the BSA. Open grassy areas provide suitable habitat for western harvest mouse *(Reithrodontomys megalotis),* Botta's pocket gopher *(Thomomys bottae),* and California ground squirrel *(Spermophilus beecheyi).* Another small, ground-dwelling mammal observed in the BSA is desert cottontail *(Sylvilagus audubonii).*

Common bat species that would be expected to occur in the BSA include Yuma myotis *(Myotis yumanensis)* and Mexican free-tail *(Taderida brasiliensis).*

Special-Status Animal Species

Certain animal species are recognized by federal and State resource agencies as special-status species. An individual taxon (i.e., species, subspecies, or variety) is given such recognition due to its documented or perceived decline and/or limitations of its population size, geographic range, and distribution resulting in most cases from habitat loss. For this analysis, special-status animals are those listed as federal or State endangered, threatened, or candidate species, and/or are California species of special concern.

Most of the BSA is either developed or routinely disturbed for mowing or flood control; few areas of habitat are present that could support special-status wildlife species. The best areas of habitat for wildlife species occur along San Diego Creek – North, San Diego Creek – South, and the Quail Hill Open Space open space (located immediately adjacent to the BSA near the

Sand Canyon Avenue exit). Seven special-status wildlife species were observed and 11 special-status species have potential to occur in the BSA. The 18 special-status wildlife species that have potential to occur in the BSA are shown in Table 2.3.4-1.

Table 2.3.4-1. Special-Status Wildlife Species with Potential to Occur in the BSA

Common (Scientific Name)	Status: Fed/State	Species Requirements	Rationale (Potential for Species to Occur)	Coverage Under OCTA NCCP/HCP
Amphibians				
western spade foot (*Spea hammondii*)	CSC	Found primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools and seasonal ponds are essential for breeding and egg laying. It is found at sea level to 4,500 feet in elevation	Limited potential to occur; limited marginally suitable terrestrial habitat; limited potentially suitable breeding habitat.	Not covered
western pond turtle (*Emys marmorate*)	CSC	Found in association with permanent or nearly permanent water in a fairly wide variety of habitat types. It is omnivorous, taking a wide variety of plant and animal food. The species requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks.	Expected to occur; suitable habitat.	Covered
Reptiles				
coastal whiptail *(Aspidoscelis tigris stejnegeri)*	CSC	Typically found in open scrub, chaparral, and woodland vegetation types in semi-arid areas or where vegetation is sparse. It occurs in areas where the ground is comprised of firm, sandy, or rocky soil from sea level to 7,000 feet above msl.	Limited potential to occur; limited marginally suitable habitat.	Not covered
coast horned lizard *(Phrynosoma blainvillii)*	CSC	Occurs in open areas with sandy soil in grasslands, coniferous forests, woodlands, chaparral, sandy washes, and dirt roads. It occurs from sea level to 8,000 feet above msl. In the vicinity of the BSA, this species is known to occur at several locations in the San Joaquin Hills, including Laguna Canyon and Pelican Hill in Newport Beach.	Not expected to occur; limited marginally suitable habitat.	Covered
two-striped garter snake *(Thamnophis hammondii)*	CSC	This species is often in water and rarely found far from it, though it is also known to inhabit intermittent streams having rocky beds bordered by willow thickets or other dense vegetation. It will also inhabit large riverbeds if riparian vegetation is available, and even occurs in artificial impoundments if both aquatic vegetation and suitable prey items (small amphibians and fish) are present.	May occur; suitable habitat.	Not covered

Table 2.3.4-1. Special-Status Wildlife Species with Potential to Occur in the BSA

Common (Scientific Name)	Status: Fed/State	Species Requirements	Rationale (Potential for Species to Occur)	Coverage Under OCTA NCCP/HCP
Birds				
Cooper's hawk *(Accipiter cooperii)*	CWL	Nests in stands of oak woodland, deciduous riparian, conifers, or other forests habitats, often near water. Both resident and migratory populations exist in Orange County. Wintering Cooper's hawks are often seen in wooded urban areas and native woodland vegetation types. Preferred nesting habitats are oak and riparian woodlands dominated by sycamores and willows. Cooper's hawks in the region prey on small birds and rodents that live in woodland, scrub, and chaparral vegetation communities.	Observed foraging; may occur for nesting; suitable foraging and nesting habitat.	Not covered
ferruginous hawk *(Buteo regalis)*	CWL	Forages in open grasslands, sagebrush flats, desert scrub, and at the edge of pinyon-juniper woodland. This raptor only occurs as a winter resident in California.	May occur for foraging in winter; marginally suitable foraging habitat; not expected to occur for nesting; does not nest in California.	Not covered
white-tailed kite *(Elanus leucurus)*	CFPS	Species hunts in open country. This is a strongly lowland species, apparently rare anywhere in California above 2,000 feet. Nests are flimsy and are located low in trees and large shrubs near foraging areas in savannahs and at edges between open habitat and woodland or forest areas. Its diet is largely restricted to small mammals such as voles and mice.	Observed foraging; may occur for nesting; suitable foraging and nesting habitat.	Not covered
California horned lark *(Eremophila alpestris actia)*	CWL	Requires open habitats such as grasslands or agricultural fields that support little to no vegetation or short vegetation. This lark is found along the coast of northern California, in the San Joaquin Valley, in the Coast Ranges south of San Francisco Bay, and in southern California west of the deserts. Fairly common breeding resident in grasslands and other dry, open habitats.	Observed; suitable habitat.	Not covered
yellow-breasted chat *(Icteria virens)*	CSC	Nests in low thickets in dense riparian habitats. Eats a variety of invertebrates. Local and uncommon breeder and rare migrant across southern California.	Observed; suitable habitat.	Not covered

Table 2.3.4-1. Special-Status Wildlife Species with Potential to Occur in the BSA

Common (Scientific Name)	Status: Fed/State	Species Requirements	Rationale (Potential for Species to Occur)	Coverage Under OCTA NCCP/HCP
yellow warbler *(Setophaga petechial brewsteri)*	CSC	Nests in the upper story of riparian habitats in southern California. It is also a common, widespread migrant in spring and fall, occupying a wide variety of habitats at that time.	Observed; suitable habitat.	Not covered
Bats				
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSC	Found throughout California in coastal areas, valleys, deserts, foothills, and mid-elevation montane forest. The occurrence of the species is highly correlated with availability of caves and cave-like roosting habitat (cavity forming rock, abandoned mines, buildings, bridges, water diversion tunnels, and tree cavities). Temperature and humidity are very important factors in occupation of potentially suitable habitat.	Limited potential to occur; suitable foraging and roosting habitat present; no previously recorded occurrences in vicinity.	Not covered
western mastiff bat (*Eumops perotis californicus*)	CSC	Found throughout the coastal lowlands up to drier mid elevation mountains, but avoids the Mohave and Colorado deserts. Habitats include dry woodlands, shrublands, grasslands, and occasionally even developed areas. For roosting, appears to favor rocky, rugged areas in lowlands where abundant suitable crevices are available for day roosts. Roost sites may be in natural rock or in tall buildings, large trees, or elsewhere.	May occur for foraging and roosting; suitable foraging and roosting habitat.	Not covered
western red bat (*Lasiurus blossevillii*)	CSC	Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Roosts primarily in trees, less often in shrubs. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above, open below, and located above dark ground-cover.	Limited potential to occur; suitable foraging and roosting habitat present; no nearby occurrences reported.	Not covered

Table 2.3.4-1. Special-Status Wildlife Species with Potential to Occur in the BSA

Common (Scientific Name)	Status: Fed/State	Species Requirements	Rationale (Potential for Species to Occur)	Coverage Under OCTA NCCP/HCP
hoary bat (*Lasiurus cinereus*)	CSC	Generally roosts in dense foliage of medium to large trees. Preferred sites are hidden from above, with few branches below, and have ground cover of low reflectivity. Prefers open habitats and habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding.	Limited potential to occur; suitable foraging and roosting habitat present; no previously recorded occurrences in vicinity.	Not covered
western small-footed myotis (*Myotis ciliolabrum*)	CSC	Occurs in a wide variety of habitats, primarily in relatively arid wooded and brushy uplands near water. This bat seeks caves, buildings, mines, crevices, and occasionally under bridges and under bark. Separate night roosts may be used. Requires water, and often seen to drink soon after emergence. Humid roost sites are preferred.	Limited potential to occur; suitable foraging and roosting habitat present; no nearby occurrences reported.	Not covered
Mammals				
bobcat (*Lynx rufus*)	CFP	It occurs throughout most of California in a variety of habitats, especially brushy stages of low and mid-elevation conifer, oak, riparian, and pinyon juniper forests and chaparral. Bobcats use cavities in rocks, logs, snags, stumps, or dense brush for cover. Bobcats occur in any sizeable area of relatively undisturbed habitat and are most closely associated with rocky and brushy areas near springs or other perennial water sources. Viable populations rely heavily on large, undisturbed blocks of habitat. Adequate linkages between these large blocks are a key requirement.	Expected to occur; suitable habitat.	Covered
mountain lion (*Puma concolor*)	CFP	Mountain lions occur in a variety of habitats, especially brushy habitats and riparian areas with interspersed irregular terrain, rocky outcrops, and tree/brush edges. Mountain lions use caves, natural cavities and thickets for cover. Mountain lions use habitat connections for movement among fragmented core habitat.	Not expected to occur; limited marginally suitable habitat.	Covered

Table 2.3.4-1. Special-Status Wildlife Species with Potential to Occur in the BSA

Common (Scientific Name)	Status: Fed/State	Species Requirements	Rationale (Potential for Species to Occur)	Coverage Under OCTA NCCP/HCP
Status Codes: Federal FE = Federally listed; Endangered. PE = Proposed Endangered. FT = Federally listed; Threatened. FC = Federal Candidate for Listing. FSC = Federal Species of Concern. D = Delisted. State ST = State listed; Endangered. SE = State listed; Threatened. SC = State Candidate for Listing. CSC = California Species of Special Concern. CFP = California Fully Protected Species.				

2.3.4.3 Environmental Consequences

Alternative 1 (No Build)

No improvements would be implemented with the No Build Alternative; therefore, there would be no temporary or permanent impacts associated with this alternative.

Build Alternative 2 (Preferred Alternative) and Build Alternative 3

There would be permanent and temporary impacts to animal species associated with the build alternatives. A breakout of those impacts is provided below.

Amphibians and Reptiles

During construction of either build alternative, approximately 0.21 acre of vegetation habitat would be disturbed, which may permanently affect the western spadefoot, coastal whiptail, western pond turtle, and two-striped garter snake (Tables 2.3.4-2 through 2.3.4-5, respectively).

Approximately 0.21 acre of suitable amphibian and reptile habitat would be permanently impacted by the build alternatives. The minimal loss of marginally suitable habitat relative to the amount of habitat available within the project study area and incorporation of appropriate avoidance and minimization measures would result in effects considered less than substantial for those amphibians and reptiles located with the BSA. The coast horned lizard is not expected to occur in the BSA; therefore, the build alternatives are not likely to adversely affect this species.

Table 2.3.4-2. Project Impacts on Western Spadefoot Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Sagebrush Scrub (2.3.6)	1.41	0.02	0.00	0.02
Coastal Freshwater Marsh (6.4)	1.68	0.00	0.00	0.00
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Total	**17.68**	**0.21**	**0.16**	**0.37**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Table 2.3.4-3. Project Impacts on Coastal Whiptail Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Sagebrush Scrub (2.3.6)	1.41	0.02	0.00	0.02
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Total	**8.75**	**0.09**	**0.16**	**0.25**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Table 2.3.4-4. Project Impacts on Western Pond Turtle Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Sagebrush Scrub (2.3.6)	1.41	0.02	0.00	0.02
Coastal Freshwater Marsh (6.4)	1.68	0.00	0.00	0.00
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Total	**17.68**	**0.21**	**0.16**	**0.37**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Table 2.3.4-5. Project Impacts on Two-Striped Garter Snake Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Coastal Freshwater Marsh (6.4)	1.68	0.00	0.00	0.00
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Total	**16.27**	**0.19**	**0.16**	**0.35**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Birds

Construction impacts of the build alternatives would permanently impact approximately 137 acres of habitat, which would affect the Cooper's hawk, ferruginous hawk, California horned lark, white-tailed kite, yellow-breasted chat, and yellow warbler (Tables 2.3.4-6 through 2.3.4-11, respectively).

Table 2.3.4-6. Project Impacts on Cooper's Hawk Habitat – Alternatives 2 and 3

Vegetation Communities	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Sagebrush Scrub (2.3.6)	1.41	0.02	0.00	0.02
Annual Grassland (4.1)	72.48	55.80	0.24	56.04
Ruderal (4.6)	9.39	2.42	0.04	2.45
Coastal Freshwater Marsh (6.4)	1.68	0.00	0.00	0.00
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Flood Control Channel (13.4)	15.04	3.32	0.19	3.52
Parks and Ornamental Plantings (15.5)	110.90	74.75	0.73	75.47
Sycamore Plantings (15.5)	0.32	0.02	0.00	0.02
Oak Plantings (15.5)	0.15	0.01	0.00	0.01
Cleared or Graded (16.1)	3.24	0.38	0.26	0.64
Total	**229.21**	**136.91**	**1.62**	**138.52**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Table 2.3.4-7. Project Impacts on Ferruginous Hawk Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Sagebrush Scrub (2.3.6)	1.41	0.02	0.00	0.02
Annual Grassland (4.1)	72.48	55.80	0.24	56.04
Ruderal (4.6)	9.39	2.42	0.04	2.45
Cleared or Graded (16.1)	3.24	0.38	0.26	0.64
Total	**86.52**	**58.62**	**0.54**	**59.16**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Table 2.3.4-8. Project Impacts on California Horned Lark Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Annual Grassland (4.1)	72.48	55.80	0.24	56.04
Ruderal (4.6)	9.39	2.42	0.04	2.45
pCleared or Graded (16.1)	3.24	0.38	0.26	0.64
Total	**85.11**	**58.60**	**0.54**	**59.13**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Table 2.3.4-9. Project Impacts on White-Tailed Kite Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Sagebrush Scrub (2.3.6)	1.41	0.02	0.00	0.02
Annual Grassland (4.1)	72.48	55.80	0.24	56.04
Ruderal (4.6)	9.39	2.42	0.04	2.45
Coastal Freshwater Marsh (6.4)	1.68	0.00	0.00	0.00
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Flood Control Channel (13.4)	15.04	3.32	0.19	3.52
Parks and Ornamental Plantings (15.5)	110.90	74.75	0.73	75.47
Sycamore Plantings (15.5)	0.32	0.02	0.00	0.02
Oak Plantings (15.5)	0.15	0.01	0.00	0.01
Cleared or Graded (16.1)	3.24	0.38	0.26	0.64
Total	**229.21**	**136.91**	**1.62**	**138.52**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Table 2.3.4-10. Project Impacts on Yellow-Breasted Chat Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Total	**14.59**	**0.19**	**0.16**	**0.35**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Table 2.3.4-11. Project Impacts on Yellow Warbler Habitat– Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Total	**14.59**	**0.19**	**0.16**	**0.35**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

The build alternatives would permanently impact up to 137 acres of suitable foraging habitat for the Cooper's hawk. This loss of habitat would contribute to the regional ongoing loss of raptor foraging habitat in the region; however, the loss of foraging habitat for this species would be limited relative to the availability of similar habitat in the region. In addition, tree removal and/or nearby construction could adversely affect nesting efforts for this species if Cooper's hawks nest in or adjacent to the BSA.

The build alternatives would permanently impact up to 59 acres of ferruginous hawk winter foraging habitat and would contribute to the regional ongoing loss of raptor foraging habitat in the region; however, the loss of foraging habitat for this species would be limited relative to the availability of similar habitat in the region. The ferruginous hawk is not expected to occur in the BSA during the breeding season.

Approximately 59 acres of suitable habitat for the California horned lark would be permanently impacted and would result in a minimal loss of suitable habitat relative to the amount available in the project region. With the incorporation of appropriate avoidance and minimization measures, the overall effects to the California horned lark are considered less than substantial.

The build alternatives would permanently impact up to 137 acres of suitable foraging habitat for the white-tailed kite. This loss of habitat would contribute to the regional ongoing loss of raptor foraging habitat in the region; however, the loss of foraging habitat for this species would be limited relative to the availability of similar habitat in the region. White-tailed kites could nest in trees in the BSA, most likely in riparian habitats, but they could also nest in ornamental plantings. Tree removal and/or nearby construction could adversely affect nesting efforts for this species if white-tailed kites nest in or adjacent to the BSA.

Approximately 0.19 acre of suitable habitat for the yellow-breasted chat and yellow warbler would be permanently removed with construction of the build alternatives. Removal of this habitat is considered to have a less than substantial effect on the identified species because the removal of less than 0.5 acre of suitable habitat is minor relative to the amount of habitat available in the project region.

Bats

Bats occur in a variety of habitats throughout the state. Distribution is strongly correlated with the availability of caves and cave-like roosting habitat, including abandoned mines or similar type structures such as underneath open bridge decks and culverts. Bat species have a limited potential to occur in the BSA for foraging and roosting. Bat species could include the Townsend's big-eared bat, western mastiff bat, western red bat, hoary bat, and western small-footed myotis. Figure 2.3.4-1 (Sheets 1 through 3) shows potential bat roost locations in the project area, including the location of bridge structures and culverts. Focused surveys will be performed at least 1 year prior to construction to determine the potential for bat roosts, species, and colony type (i.e., maternity) present in the project area. In the absence of focused surveys, the presence of bats should be assumed.

The build alternatives would permanently impact up to 137 acres of suitable foraging habitat for bats (Table 2.3.4-12). Removal of this habitat would contribute to the regional ongoing loss of bat foraging habitat in the region; however, the loss of foraging habitat for these bats would be limited relative to the availability of similar habitat in the region.

Table 2.3.4-12. Project Impacts on Bat Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Sagebrush Scrub (2.3.6)	1.41	0.02	0.00	0.02
Annual Grassland (4.1)	72.48	55.80	0.24	56.04
Ruderal (4.6)	9.39	2.42	0.04	2.45
Coastal Freshwater Marsh (6.4)	1.68	0.00	0.00	0.00
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Flood Control Channel (13.4)	15.04	3.32	0.19	3.52
Parks and Ornamental Plantings (15.5)	110.90	74.75	0.73	75.47
Sycamore Plantings (15.5)	0.32	0.02	0.00	0.02
Oak Plantings (15.5)	0.15	0.01	0.00	0.01
Cleared or Graded (16.1)	3.24	0.38	0.26	0.64
Total	**229.21**	**136.91**	**1.62**	**138.52**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Following implementation of the project, spillover of night lighting along the roadway into the adjacent open space could have an adverse impact on the foraging activities of bats. This may result in reduced health and vigor of bats and/or their young.

Mammals

Bobcats are expected to use San Diego Creek – North and South to cross under I-405 and SR-133, while mountain lions may use San Diego Creek – South. Table 2.3.4-13 shows impacts to bobcat habitat for the two build alternatives.

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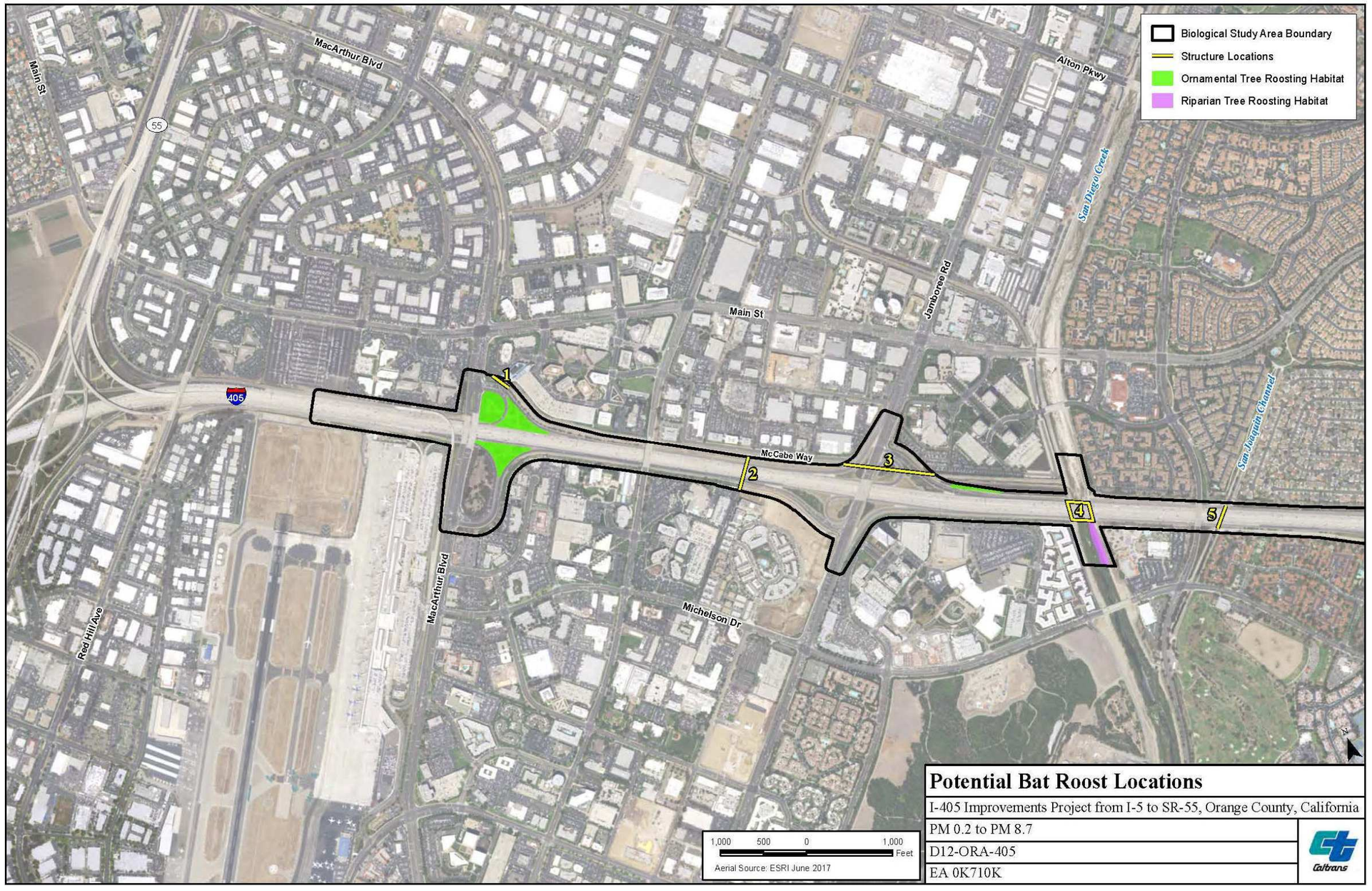

Figure 2.3.4-1. Bat Roost Locations (Sheet 1 of 3)

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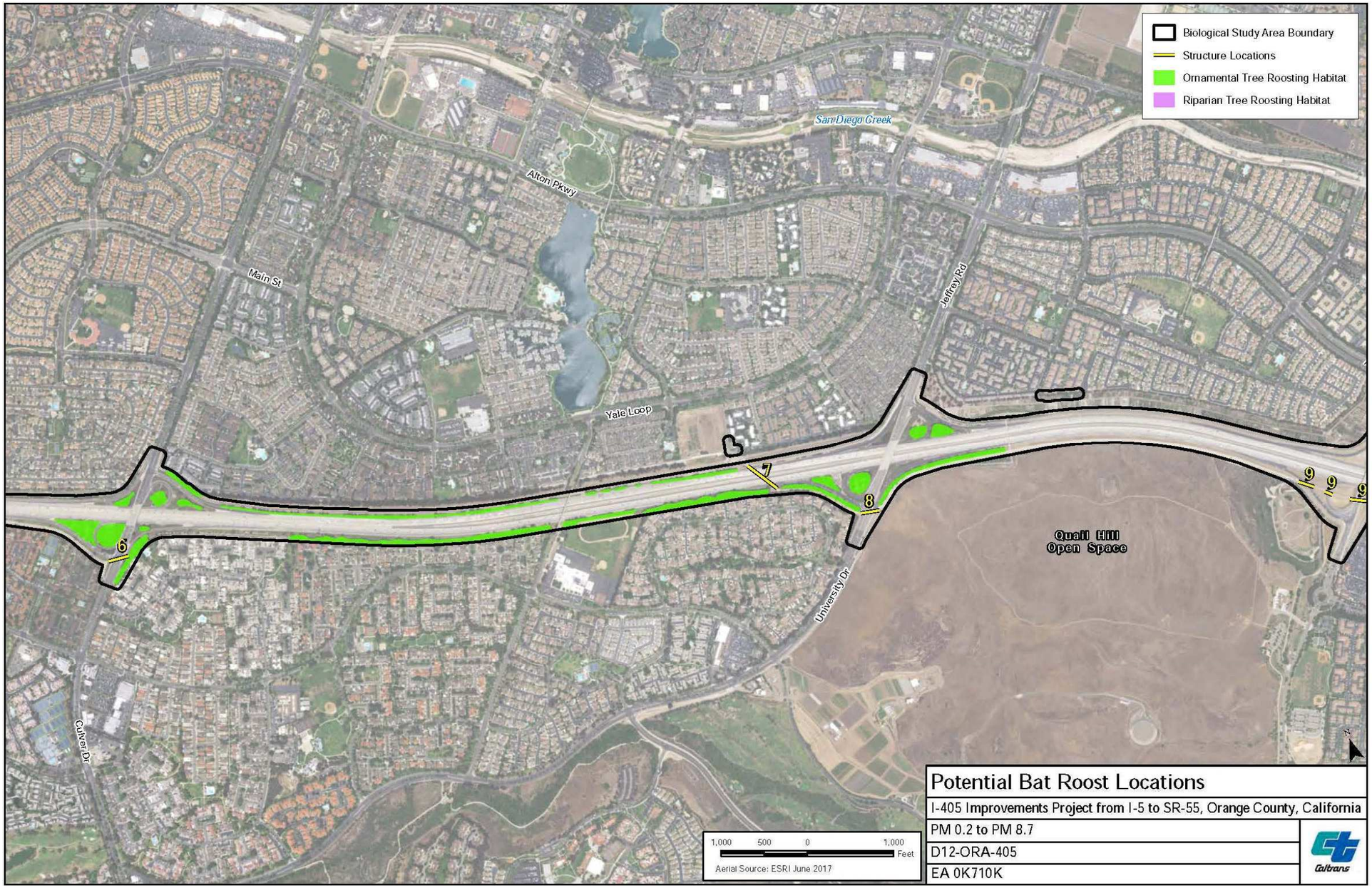

Figure 2.3.4-1. Bat Roost Locations (Sheet 2 of 3)

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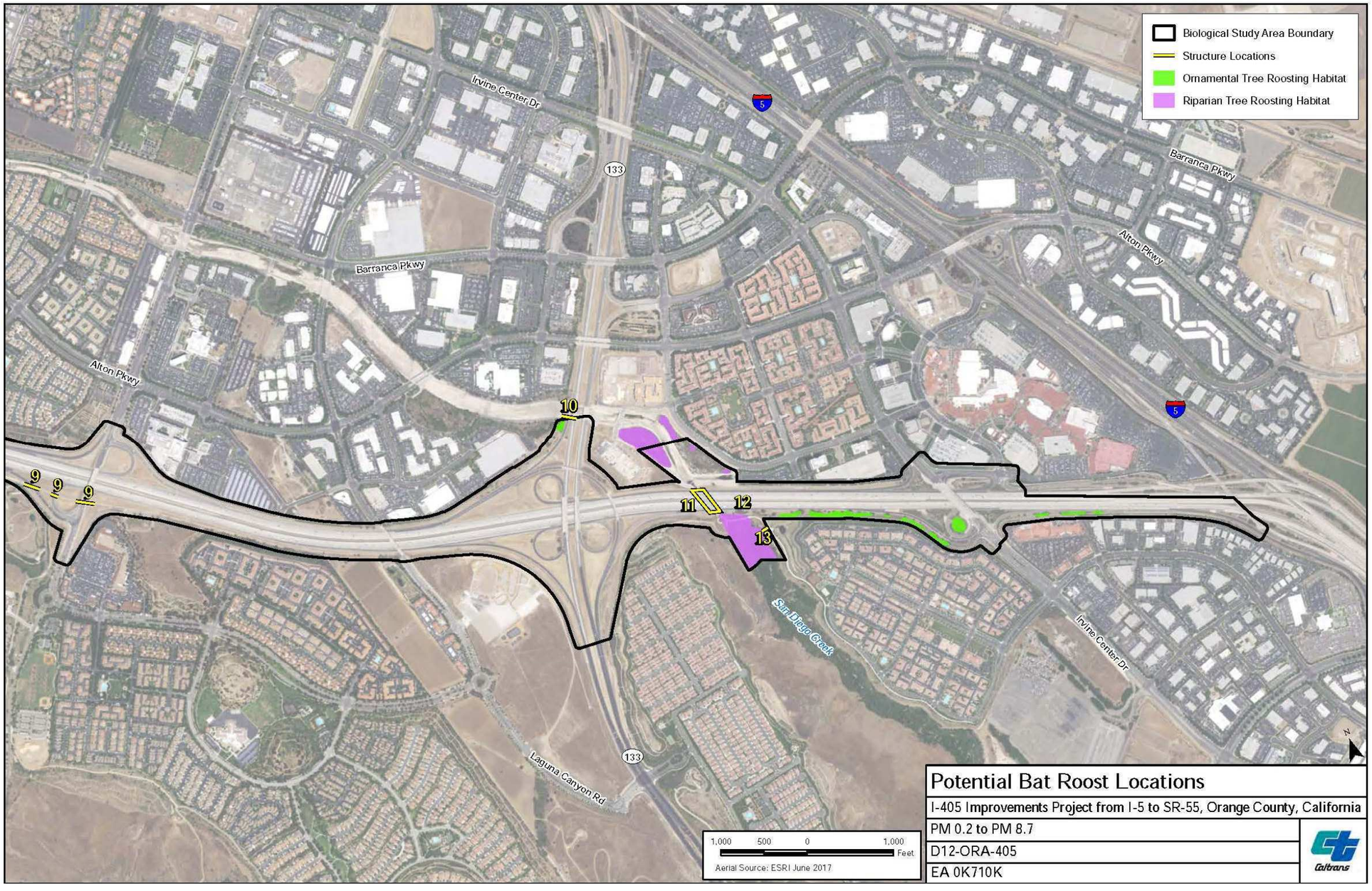

Figure 2.3.4-1. Bat Roost Locations (Sheet 3 of 3)

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Table 2.3.4-13. Project Impacts on Bobcat Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Sagebrush Scrub (2.3.6)	1.41	0.02	0.00	0.02
Annual Grassland (4.1)	72.48	55.80	0.24	56.04
Riparian Herb (7.1)	1.57	0.05	0.08	0.13
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Flood Control Channel (13.4)	15.04	3.32	0.19	3.52
Total	**103.52**	**59.34**	**0.59**	**59.93**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

The build alternatives would permanently impact approximately 60 acres of suitable bobcat habitat. With incorporation of appropriate avoidance and minimization measures, the effect of this habitat removal on bobcats is considered less than substantial because the overall loss of habitat is considered minimal relative to the amount of suitable available in the project region.

The build alternatives would permanently impact approximately 0.16 acre of suitable mountain lion habitat (Table 2.3.4-14). With incorporation of appropriate avoidance and minimization measures, the effect of this habitat removal is considered less than substantial because the overall loss of habitat is minimal relative to the amount of suitable available in the project region.

Table 2.3.4-14. Project Impacts on Mountain Lion Habitat – Alternatives 2 and 3

Vegetation Communities*	Existing (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Sagebrush Scrub (2.3.6)	1.41	0.02	0.00	0.02
Southern Willow Scrub (7.2)	0.84	0.00	0.00	0.00
Mule Fat Scrub (7.3)	2.35	0.00	0.00	0.00
Southern Black Willow Forest (7.7)	7.25	0.12	0.00	0.12
Perennial Rivers and Streams (13.1)	2.57	0.02	0.08	0.10
Total	**14.43**	**0.16**	**0.08**	**0.24**
* Numbers following vegetation names correspond to numbering in Gray and Bramlet (1992).				

Construction (Short-Term) Impacts

Construction activities associated with either build alternative would temporarily impact various habitats, which in turn may impact the various wildlife species that use those habitats. During construction, the potential exists for indirect effects on various wildlife species that may be present, as well as potential habitat adjacent to the limits of disturbance. Noise, dust, risk of fire, and litter could further degrade adjoining potential habitat and/or cause avoidance of these areas by wildlife.

Construction of the project would include use of heavy equipment to clear vegetation and grade the project site. This activity would create noise, dust, and vibration that could adversely affect animals within and next to the construction site. This disturbance could cause animals to move away from construction. Habitat next to the construction site may not be used by species sensitive to construction noise, dust, and vibration effects. Vibration could collapse the burrows or dens of burrowing animals. Changes in hydrology, erosion, siltation, and increased runoff could occur downstream of the ROW affecting habitat. Invasion by non-native species introduction and spreading from construction equipment to adjacent areas could also alter habitats.

Improper disposal of petroleum and chemical products from construction equipment could adversely affect water quality during construction. Adverse effects on water quality could affect plants, animals, and habitats downstream of construction areas, including areas along the San Diego Creek.

Construction during the breeding season could disturb nesting activities, possibly resulting in nest abandonment, loss of young, and reduced health and vigor of eggs and/or nestlings. Direct effects on an active Cooper's hawk nest would be considered a violation of the California Fish and Game (CFG) Code (Sections 3503, 3503.5, and 3513) and the Migratory Bird Treaty Act (MBTA).

Construction activities on or adjacent to various structures, including culverts and bridges, could impact maternity roosts, day roosts, or night roosts of bats. Additionally, night lighting during construction in or around the culverts could interfere with bat foraging behavior and use of the culvert for roosting. Certain construction activities (e.g., jackhammering, pile driving) over or adjacent to culverts could increase the amount of vibration and could disturb bat roosts.

Night lighting during construction of the project could spill over into the adjacent open space and could adversely affect foraging activities of nocturnal species (e.g., bats, owls, small

mammals, bobcats) and may also increase predation of small mammals; therefore, the project's night lighting may affect nocturnal wildlife, especially along the San Diego Creek.

If construction limits are not clearly marked, construction operators could inadvertently remove habitat that should not be removed. Implementation of the measures listed in Section 2.3.4.4, Avoidance, Minimization, and/or Mitigation Measures, would minimize the potential impacts from project construction.

2.3.4.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to previously discussed measures such as BIO-1, BIO-2, BIO-3, and BIO-4, the following avoidance, minimization, and/or mitigation measures will be implemented with the build alternatives to minimize or avoid temporary or permanent impacts to animal species. Standardized measures which are employed on most, if not all, Caltrans projects are indicated in bold.

BIO-5: Western Spadefoot Preconstruction Surveys. If construction begins during the western spadefoot breeding season (February through June), a qualified Biological Monitor will survey the impact area for any areas of ponded water (including road ruts) that occur within the impact area for the presence of western spadefoot eggs and/or tadpoles. If no eggs or tadpoles are observed, no further measures will be required. If spadefoot eggs and/or tadpoles are observed in the impact footprint, the area will be avoided until the tadpoles have metamorphosed.

BIO-6: Western Spadefoot Translocation Plan. If the area cannot be avoided, a qualified biologist will prepare a Western Spadefoot Translocation Plan that proposes a location where the eggs/tadpoles will be moved and describes methods that will be used to carry out the translocation. The Western Spadefoot Translocation Plan will be reviewed and approved by CDFW and will be implemented as approved

BIO-7: Western Pond Turtle Avoidance and Minimization Plan. Caltrans/OCTA will prepare a Western Pond Turtle Avoidance and Minimization Plan for review and approval by CDFW. The Plan will describe: (1) the methodology for preconstruction surveys based on the planned start of construction (i.e., within or outside of the season when western pond turtles are active); (2) exclusionary measures that will be installed around the construction impact area to exclude turtles; (3) methodology for relocation of western pond turtles outside of the construction impact area; (4) identification of a relocation site at a nearby location in the same watershed as the project; (5) biological monitoring requirements during construction; and (6)

avoidance measures to be implemented during construction to avoid and minimize impacts on the western pond turtle.

BIO-8: Western Pond Turtle Preconstruction Surveys. Two weeks prior to ground-disturbing activities (including placement of heavy equipment) in or near aquatic habitats (i.e., along San Diego Creek – North and San Diego Creek – South), Caltrans/OCTA will ensure that a preconstruction survey is conducted for western pond turtles as described in the Western Pond Turtle Avoidance and Minimization Plan. The preconstruction surveys will be conducted by a CDFW-approved qualified biologist (i.e., one with pond turtle trapping/handling experience and holding a CDFW Scientific Collecting Permit to carry out these activities) to determine their presence or absence within the construction footprint.

BIO-9: Western Pond Turtle Exclusion and Relocation. If western pond turtles are present in the BSA during preconstruction surveys, exclusion and relocation of western pond turtles as described in the Western Pond Turtle Avoidance and Minimization Plan (BIO-8) and approved by CDFW will be implemented. The Plan will provide for the erection of turtle barriers/exclusion fencing and surveys of the construction area to capture and relocate turtles from within the project work area. Turtles will be relocated to nearby suitable habitat a minimum of 300 feet downstream from the work area or another appropriate nearby location within the watershed; relocation areas will be described in the Western Pond Turtle Avoidance and Minimization Plan and will be approved by CDFW prior to relocation of turtles. Immediately prior to initiation of construction, the CDFW-approved biologist will visually survey the work area and will relocate any western pond turtles to the relocation site as approved by CDFW in the Western Pond Turtle Avoidance and Minimization Plan.

BIO-10: Biological Monitoring in Western Pond Turtle Occupied Habitat. Biological Monitoring will occur as described in the Western Pond Turtle Avoidance and Minimization Plan. In areas where western pond turtle occurrence is assumed (i.e., San Diego Creek – North and San Diego Creek – South), a Biological Monitor will be present onsite during vegetation clearing regardless of the outcome of preconstruction surveys and during other construction activities as described in the Plan. If a pond turtle is observed in the impact area (i.e., it was not captured during preconstruction trapping or enters the construction area following trapping), the Biological Monitor will have the authority to stop construction activities that could harm the turtle until it can be captured and relocated out of the impact area.

Exclusionary fencing will be used to ensure western pond turtles are kept out of the construction area as described in the Western Pond Turtle Avoidance and Minimization Plan. Exclusionary fencing will be maintained throughout the duration of construction. The integrity of the exclusion fencing will be checked daily by the Biological Monitor throughout construction. Additionally, the Biological Monitor will check the work area every morning before construction may begin to ensure that no turtles are within the exclusion area. Any western pond turtle found will be relocated immediately to the relocation area approved in the Western Pond Turtle Avoidance and Minimization Plan.

Construction will avoid work in ponded or flowing water within 1,500 feet of known turtle locations unless alternative avoidance and minimization measures described in the Western Pond Turtle Avoidance and Minimization Plan are approved by CDFW in the Plan.

BIO-11: Nesting Bird Survey. If Caltrans/OCTA determines that avoidance of the avian breeding season is not feasible, at least 2 weeks prior to the initiation of project activities during the nesting bird/raptor season (i.e., February 1 to September 30 for birds/raptors), a qualified biologist with experience in conducting breeding bird surveys will conduct weekly bird surveys to detect presence/absence of migratory and resident bird species occurring in suitable nesting habitat that would be directly or indirectly disturbed and (as access to adjacent areas allows) any other such habitat within an appropriate buffer distance of the disturbance area. Generally, the buffer distance should be 300 feet (500 feet for federally and State-listed bird species and nesting raptors); however, because the project occurs along a noisy freeway, a buffer distance as low as 100 feet for common species and non-raptors could be appropriate. If a narrow buffer distance is warranted, Caltrans/OCTA will have a qualified biologist identify the appropriate buffer distances for raptors and non-raptors in consultation with the Caltrans Resident Engineer and will notify CDFW. The surveys will continue weekly, with the last survey being conducted no more than 3 days prior to the initiation of project activities. If a nesting bird species is found, Caltrans/OCTA will do the following to avoid and minimize impacts on native birds and the nest or eggs of any birds:

- Flagging, stakes, and/or construction fencing will be used to demarcate the inside boundary of the buffer between the project activities and the nest.
- The Biological Monitor will be present onsite during all grubbing and clearing of vegetation to ensure that these activities remain within the project footprint

(i.e., outside the demarcated buffer); to ensure that the flagging/stakes/fencing is being maintained; and to minimize the likelihood that active nests are abandoned or fail due to project activities. The Biological Monitor will send weekly monitoring reports to Caltrans/OCTA and the OCTA NCCP Administrator during the grubbing and clearing of vegetation and will notify Caltrans/OCTA and the OCTA NCCP Administrator immediately if project activities take, possess, or needlessly destroy the nest or eggs of any bird, any bird of prey, or any active bird nests or eggs. Within 48 hours of damage to an active nest or eggs or observed death or injury of birds protected under State law or the MBTA, Caltrans/OCTA will notify USFWS/CDFW.

BIO-12: Avoidance of Crevice-Roosting Bats: Direct modification of culvert and bridge structures and/or construction activities that may cause significant vibration impacts on bat roost structures will be scheduled to avoid the bat maternity season (i.e., March 1 through August 31). Focused surveys will be performed at least 1 year prior to construction to determine the potential for bat roosts, species, and colony type (i.e., maternity) present in the project area. If construction activities on these structures cannot be scheduled to avoid the bat maternity season, then temporary bat exclusion devices will be installed to block crevices that could be used for roosting. Exclusion devices will be installed in the fall (i.e., September and October) and will be removed at the conclusion of the construction activities. The bat exclusion devices will be designed to allow bats to exit the roost areas but not re-enter through use of a one-way door type design. All bat exclusion designs will be approved by a qualified bat specialist and CDFW. Installation of the bat exclusion devices will be conducted under supervision of a qualified bat specialist.

BIO-13: Preconstruction Roosting Bat Survey. Focused surveys will be performed at least 1 year prior to construction to determine the potential for bat roosts, species, and colony type (i.e., maternity) present in the project area. In addition, a preconstruction bat roosting survey will be conducted within 2 weeks prior to direct modification to culvert and bridge structures, even if exclusion measures were installed the previous fall. If the structure is being used as an active day roost during the maternity season, construction will be delayed until September 1, or until a qualified bat specialist determines that breeding activities are complete. If the structure is being used as an active day roost during the non-maternity season, construction activities may commence with approval from CDFW, but construction will occur at night so as not to disturb day-roosting bats.

BIO-14: Biological Monitoring by a Bat Specialist. Direct modification to culverts and bridges will be monitored by a qualified bat specialist unless the bat specialist determines that the culvert/bridge is no longer being actively used for day roosting.

BIO-15: Night Lighting during Construction. Night lighting used during construction and/or additional permanent night lighting will be contained to the ROW. No artificial lighting will illuminate the inside of culverts, the underside of bridges, and/or the streambed/native vegetation along waterways during the evening or night hours (unless direct modification to a culvert or bridge is occurring at night under the supervision of a qualified bat specialist as described above). Lighting plans for permanent light fixtures will be submitted to Caltrans/OCTA for review during the project design phase to ensure that lighting has been minimized to the extent practicable.

BIO-16: Avoidance of Foliage-Roosting Bats. Prior to removal of mature ornamental or riparian trees, a qualified bat specialist will conduct a preconstruction roosting bat survey of the trees to be removed. If no bat roosting is observed, the trees can be removed. If an active day roost is observed during the bat maternity season (i.e., March 1 through August 31), tree removal will be delayed until September 1, or until a qualified bat specialist has determined that bats are no longer breeding. If an active day roost is observed during the non-maternity season (September 1 to February 29), phased tree trimming or exclusionary netting (to allow bats to exit the trees but not re-enter) will be used to allow bats to leave the roost prior to tree removal. All bat exclusion designs will be approved by a qualified bat specialist and CDFW. Installation of bat exclusion devices and tree removal will be conducted under the supervision of a qualified bat specialist.

BIO-20: Review of Permanent Night Lighting. Lighting plans for permanent light fixtures will be submitted for review by Caltrans/OCTA during the project design phase to ensure that lighting has been minimized to the extent practicable. The review will ensure that lighting in or adjacent to conserved habitat (i.e., San Diego Creek, Quail Hill Open Space) is eliminated except where it is essential for roadway use, facility use, safety, or security purposes. It will also ensure that low-pressure sodium illumination sources are used and that low-voltage outdoor or trail lighting, spotlights, and bug lights are not used. Lastly, it will ensure light sources adjacent to conserved habitat is shielded so that the lighting is focused downward.

BIO-28: Trash Control. To avoid attracting predators of Covered Species and other sensitive species, the project site will be kept as clean of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site(s).